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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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AZAD, ABUL K

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/643,017

Applicant(s)

THYSSEN, JES

Examiner

ABUL K. AZAD

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8,11,20,22,24-28,30,32-38,40-46 and 48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8,11,20,22,24-28,30,32-38,40-46 and 48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the communication filed on June 4, 2004.
2. Claims 8, 11, 20, 22, 24-28, 30, 32-38, 40-46 and 48 are pending in this action. Claims 8, 20, 32 and 40 have been amended. Claims 1-7, 9-10, 12-19, 21, 23, 29, 31, 39 and 47 have been canceled. Claim 48 has been newly added.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 48 recites the limitation "said spectral tilt", "said pitch correlation parameter" and "said absolute maximum parameter" in lines 1-4. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8, 11, 20, 22, 24-28, 30, 32-38, and 40-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US 6,003,001) in view of Ertem et al. (US 6,453,289).

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As per claim 8, Maeda teaches, "a method for classifying a speech signal having a background noise portion, the method comprising the steps of:"

"extracting a parameter from the speech signal" (col. 4, lines 4-25 and col. 5, lines 1-8, here PARCOR coefficient, pitch lags are the extracted parameters from the speech signal);

"removing the noise component from the speech signal to generate a noise free speech signal" (Fig. 1, elements 12 and 13, Noise canceler and Low volume suppression);

"selecting a pre-determined threshold, where the step of selecting said pre-determined threshold is unaffected by said background noise level" (col. 4 line 56 to col. 5, line 8, a pre-set threshold value TH, the threshold TH does not effected by the background noise)

"comparing the noise-free parameter with a pre-determined threshold" (col. 4 line 56 to col. 5, line 8, a pre-set threshold value TH);

"associating the speech signal with a class in response to the comparing step" (col. 5, lines 9-21, voiced or unvoiced is decided based on the comparing with the threshold).

Maeda does not explicitly teach, "estimating a noise parameter and removing the noise component from the parameter". However, Ertem teaches, "estimating a noise parameter and removing the noise component from the parameter" (Fig. 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to estimate noise parameter and remove the noise parameter from the speech parameter

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as taught by Ertem in the invention of Maeda because Eatern teaches reduction of background noise levels can mitigate several problems and enhance over all performance of the speech communication system (col. 1, lines 12-20).

As per claim 11, Maeda teaches, "wherein a plurality of parameters are extracted to classify the speech" (col. 4, lines 4-25 and col. 5, lines 1-8, here PARCOR coefficient, pitch lags are the extracted parameters from the speech signal).

As per claim 24, Maeda teaches, "wherein the plurality of parameters include a spectral tilt parameter, a pitch correlation parameter and absolute maximum parameter" (col. 4, lines 4-25 and col. 5, lines 1-8, here "PARCOR coefficient" reads on "spectral tilt parameter", "pitch lags" reads on "a pitch correlation parameter" and "maximize correlative value" reads on "absolute maximum parameter").

As per claims 25, Maeda does not explicitly teach, "wherein the removing step removes the noise component from each of the plurality of parameters to generate a plurality noise-free parameters". However, Ertem teaches, "wherein the removing step removes the noise component from each of the plurality of parameters to generate a plurality noise-free parameters" (col. 4, lines 36-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to remove background noise in a pre-compression mode as taught by Erten in the invention of Maeda because Eatern teaches reduction of background noise levels can mitigate several problems and enhance over all performance of the speech communication system (col. 1, lines 12-20).

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As per claim 26, Maeda teaches, "wherein the comparing step compares each of plurality of noise-free parameters with each of a plurality of a corresponding pre-determined threshold" (col. 5, lines 1-67).

As per claim 27, Maeda teaches, "wherein the step of removing the noise component includes applying weighting to the parameter" (col. 6, lines 20-25);

As per claim 28, Maeda teaches, "wherein weighting the parameter includes subtracting a background noise contribution" (col. Fig. 1, elements 12 and 13).

As pre claims 20, 22, 30, 32-38, 40-46, they are interpreted and thus rejected for the same reasons set forth in the rejection of claims 8, 11 and 24-28.

7. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US 6,003,001) in view of Erten et al. (US 6,453,289) as applied to claim 11 above, and further in view of Benyassine et al. (US 6,636,829).

As per claim 48, Maeda and Ertren do not explicitly teach, "wherein said spectral tilt parameter is weighted to generate a noise-free spectral tilt parameter during the step of removing, said pitch correlation parameter is weighted to generated a noise-free pitch correlation parameter during the step of removing and said absolute maximum parameter is weighted to generate a noise-free absolute maximum parameter during the step of removing". However, Benyassine teaches, "wherein said spectral tilt parameter is weighted to generate a noise-free spectral tilt parameter during the step of removing, said pitch correlation parameter is weighted to generated a noise-free pitch correlation parameter during the step of removing and said absolute maximum parameter is

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weighted to generate a noise-free absolute maximum parameter during the step of removing" (col. 11, line 55 to col. 14, line 38). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Benyassine's teaching in the invention of Maeda because Benyassine teaches his invention provides improve speech communication system is able to generate more accurate estimates for the information lost in lost packet of data (col. 3, lines 32-34).

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 8, 11, 20, 22, 24-28, 30, 32-38, 40-46 and 48 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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**Contact Information**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richemond Dorvil**, can be reached at **(703) 305-9645**.

Any response to this action should be mailed to:

**Commissioner for Patents**

**P.O. Box 1450**

**Alexandria, VA 22313-1450**

Or faxed to:

**(703) 872-9314**

(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center's Customer Service Office at telephone number **(703) 306-0377**.

  
Abul K. Azad

August 18, 2004